

5702-01051

10/826,437

THIS PAGE BLANK (USPTO)

5702-01051

RECEIVED
CENTRAL FAX CENTER

10/826,437

NOV 04 2008

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) An inflator comprising:
an inflator body;
a substantially cylindrical booster cup extending in said body, said booster cup having an outer peripheral wall and an end surface extending radially inwardly from said wall;
a plurality of apertures formed in said outer peripheral wall;
a first propellant charge positioned in said booster cup;
a second propellant charge positioned in said inflator body;
an initiator assembly operable to activate said first propellant charge, wherein a combustion thereof initiates a combustion of said second propellant charge and ejection of an inflation gas from said inflator body;
a filter abutting said booster cup end surface;
a perforated disc abutting said filter,
the filter comprising a wire mesh material extending continuously from the booster cup end surface to the perforated disc; and
a nozzle positioned at an end of said inflator and abutting said perforated disc for supplying an inflation gas.
2. (original) The inflator of claim 1 wherein said inflator body comprises an inner peripheral wall separated from said outer peripheral wall by a substantially annular space; and said second propellant charge is positioned in said space.
3. (original) The inflator of claim 2 wherein said second propellant charge is positioned substantially adjacent said outer peripheral wall.
4. (original) The inflator of claim 3 wherein said second propellant charge comprises a plurality of propellant tablets.

5702-01051

10/826,437

5. (original) The inflator of claim 3 wherein said second propellant charge substantially fills the space between the outer peripheral wall and the inner peripheral wall of the inflator body.

6. (previously presented) The inflator of claim 5 wherein said filter constrains said second propellant charge in said space.

7. (currently amended) An inflator for an inflatable restraint system in a vehicle comprising:

an inflator body having first and second ends and an inner peripheral wall;

a booster cup extending in said body and having an outer peripheral wall and an end surface extending inwardly from said outer peripheral wall, said booster cup having a first propellant charge positioned therein;

said inner peripheral wall and said outer peripheral wall are separated by a substantially annular space having a second propellant charge positioned therein;

an initiator assembly disposed proximate said first end and operable to ignite said first propellant charge;

a filter abutting said booster cup end surface;

a perforated disc abutting said filter; and

the filter comprising a wire mesh material extending continuously from the booster cup end surface to the perforated disc; and

a nozzle positioned at said second end of said body and abutting said perforated disc, said nozzle defining a nozzle outlet for supplying an inflation gas to the inflatable restraint system.

8. (cancelled) The inflator of claim 7 comprising a filter positioned adjacent said end surface.

9. (previously presented) The inflator of claim 7 wherein said body has a total length and an area defined by a cross-section thereof, and said filter has a given length about

5702-01051

10/826,437

one-fourth to one-half of the total length of the body, said filter occupying a volume determined by multiplying the cross-section of said body by the length of said filter.

10. (original) The inflator of claim 7 wherein said booster cup is a substantially cylindrical elongate member substantially coaxial with said inflator body.

11. (original) The inflator of claim 10 wherein said booster cup includes a plurality of apertures formed in said outer peripheral wall.

12. (original) The inflator of claim 11 wherein said substantially annular space extends longitudinally in said inflator body from a point proximate said first end up to a point substantially coplanar with said end surface.

13. (previously presented) The inflator of claim 7 wherein said filter is substantially cylindrical and includes a substantially cylindrical periphery positioned adjacent said inner peripheral wall, and a substantially planar end positioned flush with said end surface.

14. (currently amended) An inflatable restraint system for a motor vehicle comprising:

an inflatable restraint device;

an inflator operable to provide an inflation gas to said inflatable restraint device, said inflator comprising an elongate substantially cylindrical inflator body having first and second ends and an inner peripheral wall;

an elongate booster cup mounted to said inflator body proximate said first end and extending substantially coaxially therewith, said booster cup having an outer peripheral wall separated from said inner peripheral wall by an annular space, and a plurality of apertures formed in said outer peripheral wall;

a propellant charge positioned in said space;

a filter positioned in said inflator body abutting an end portion of the booster cup, said filter securing said propellant charge in said space;

a perforated disc abutting said filter, and

5702-01051

10/826,437

the filter comprising a wire mesh material extending continuously from the booster cup end surface to the perforated disc; and

a nozzle member proximate said second end of said inflator body and abutting said perforated disc, said nozzle member constraining said filter against axial displacement.

15. (original) The inflatable restraint system of claim 14 wherein said propellant charge comprises a plurality of gas generant tablets positioned in a geometrically ordered fashion in said annular space.

16. (original) The inflatable restraint system of claim 15 wherein said propellant charge comprises a plurality of gas generant tablets stacked adjacently in said annular space and having cylindrical axes oriented substantially perpendicular said inner peripheral wall.

17. (original) The inflatable restraint system of claim 14 wherein said nozzle is threadedly engaged with said inflator body.

18. (previously presented) The inflatable restraint system of claim 14 wherein said filter is secured against said booster cup, thereby constraining said propellant charge from movement in said annular space.

19. (previously presented) The inflatable restraint system of claim 14 further comprising a propellant charge positioned in said booster cup.

20. (previously presented) The inflatable restraint system of claim 14 further comprising an initiator body within said inflator body proximate said first end;
wherein said booster cup is attached to said initiator body and suspended therefrom, said booster cup supported in said inflator body solely by said attachment with said initiator body.

5702-01051

10/826,437

21. (original) The inflatable restraint system of claim 14 wherein the inflatable restraint device is an airbag.

22. (original) The inflatable restraint system of claim 14 wherein the inflatable restraint device is an airbelt.

23. (currently amended) An inflatable airbelt system for a motor vehicle comprising:

- an inflatable airbelt;
- an inflator operable to provide an inflation gas to said airbelt, said inflator comprising an inflator body and a booster cup extending in said body, said booster cup having an outer peripheral wall and an end surface extending radially inwardly from said wall;
- said booster cup includes a plurality of apertures formed in said outer peripheral wall;
- a first propellant charge positioned in said booster cup;
- a second propellant charge positioned in said inflator body;
- an initiator assembly operable to activate said first propellant charge, wherein a combustion thereof initiates a combustion of said second propellant charge via said apertures;
- a filter abutting said booster cup end surface;
- a perforated disc abutting said filter; and
- the filter comprising a wire mesh material extending continuously from the booster cup end surface to the perforated disc; and
- a nozzle positioned at an end of said inflator and abutting said perforated disc for supplying an inflation gas to the inflatable restraint system.

24. (original) The airbelt system of claim 23 wherein said booster cup is an elongate substantially cylindrical member oriented substantially coaxially with said inflator body.

25. (original) The airbelt system of claim 24 wherein said inflator body includes an inner peripheral wall spaced from said outer peripheral wall of said booster cup by an annular space;

5702-01051

10/826,437

said second propellant charge positioned in said space.

26. (previously presented) The airbelt system of claim 25 filter constrains said second propellant charge in said space.

27. (currently amended) An inflator module for a vehicle occupant protection system comprising:

a module housing;

an inflator positioned in said housing, said inflator comprising a booster cup mounted to within said inflator and extending substantially coaxially therewith, said booster cup having an outer peripheral wall partially defining an annular space and a plurality of apertures formed in said outer peripheral wall;

a propellant charge positioned in said space;

a filter positioned in said inflator abutting an end portion of said booster cup for securing said propellant charge in said space;

a perforated disc abutting said filter; and

the filter comprising a wire mesh material extending continuously from the booster cup end surface to the perforated disc; and

a nozzle positioned at an end of said inflator and abutting said perforated disc for supplying an inflation gas.

28. (original) The inflator module of claim 27 wherein said inflator comprises an inflator body having an inner peripheral wall opposing said outer peripheral wall, said inner and outer peripheral walls defining said space.

29. (previously presented) The inflator module of claim 28 wherein said filter constrains said propellant charge in said space.

30. (currently amended) A method of manufacturing a gas generator comprising the steps of:

5702-01051

10/826,437

positioning a booster cup within an elongate substantially cylindrical inflator body;

placing a propellant charge in a space extending between an outer peripheral wall of the booster cup and an inner peripheral wall of the inflator body;

inserting a filter member comprising a wire mesh material into the inflator body up to a point at which the filter bears against an end surface of the booster cup;

positioning a perforated disc abutting said filter member; ~~and~~ such that the wire mesh material extends continuously from the booster cup end surface to the perforated disc; and

positioning a nozzle member in the inflator body at a selected axial position and abutting said perforated disc such that the filter is constrained from axial movement between the nozzle member and the booster cup, whereby the filter secures the propellant charge in the space.

31. (original) The method of claim 30 wherein the step of placing a propellant charge in the space comprises placing propellant tablets therein.

32. (currently amended) The method of claim 31 wherein the step of placing the propellant charge in the space comprises placing the propellant tablets therein in a geometrically ordered fashion up to a point substantially coplanar with an end surface of the ~~combustion~~ booster cup.

33. (original) The method of claim 30 wherein the filter length is sized to reduce or increase a gas pressure resulting from activation of the gas generator.

34. (original) A gas generator manufactured according to the method of claim 30.